

Virginia Wildlife

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Cover

Bluefish by Francis N. Satterlee.

The Chesapeake Bay and Virginia's coastal areas are spotlighted in this issue. The summer months find many Virginians flocking to the beaches and the Bay, so this month, we focus on the state's saltwater resources.

Back cover: The *Virginia Wildlife* Sportsman's Calendar will be available soon; order yours now.



This month read about surf fishing (page 4) and the ponies of Assateague Island (page 25)



Letters

Bambi Revisited

When my husband subscribed to your magazine I thought it would be another one of those "horrible" hunting magazines. I had no idea that I would enjoy it as much as he does.

After reading your article entitled "Bambi Revisited" by Dinny Slaughter in the May 1982 issue, I realized I wasn't the animal lover I thought I was. I'm sorry to say I would not have thought twice about taking a young fawn from the wild. Nor would I have thought it an injustice for a deer to die of old age.

Thank you for opening my eyes. Perhaps this hunting season I won't smile when my husband comes home empty-handed.

Mrs. R.H. Payne
Ashland

I enjoyed the articles "Bambi Revisited" and "Snake Lore." I'm appalled at the zeal people have in going out of their way to kill a snake. I read the magazine faithfully and think it is an excellent publication.

Gary Buracker
Blackstone

It's possible to have the best interests of wildlife at heart while "killing them with kindness," so to speak, or killing them with ignorance. That's why it's important for all of us to be well-informed.

Something that we all do to one degree or another, no matter where we stand on hunting or any of the other issues which affect wildlife, is to think of the needs and wants of animals in terms of our own as human beings. This can prove cruel and dangerous to wildlife, as it did with "Slick." We need to remember that an aged deer doesn't exist bathed in the warmth of its family. Hollywood hasn't done much for wildlife, whether it's personifying deer or villainizing snakes. "Bambi" is a myth that we should not perpetrate if we truly consider ourselves animal lovers.—Assistant Editor

White Ladyslippers

Over the weekend we found two pure white ladyslippers in Sussex County. We've never seen or heard of white ones before. Are they rare?

We dug both plants up and planted them in our yard.

Ruby Downing
Colonial Heights

White ladyslippers (Cypripedium candidum) are indeed rare. John Redd, a biologist with the Game Commission, was surprised that you found any east of the Blue Ridge, and says that it is virtually impossible to successfully transplant this species.

Although pink ladyslippers are not as rare as the white variety, all ladyslippers are uncommon enough to have been considered for the endangered and threatened plant list, as we noted in Virginia Wildlife in June 1980 ("How to Successfully Transplant Ladyslippers," by Grete Dollitz). It's best to leave them alone, since successful transplanting is difficult, at best. Mrs. Dollitz transplanted several pink ladyslippers only because they would otherwise have been bulldozed to make way for an industrial park. She also knew how to accomplish this with a minimum amount of shock to the plants, and moved them to a safer (and suitable) habitat in Maymont Park here in Richmond.

We do not recommend the transplanting of ladyslippers, white or otherwise, except under these kinds of circumstances, and then only if you know how to do so successfully.—Assistant Editor

April Issue

I would be remiss if I did not let you know how much I enjoyed your April issue. Anyone who enjoys fishing as I do would certainly be interested in all the articles therein.

I am a resident of Connecticut. I enjoy the friendship of one of your Commissioners, I. Lee Potter, with whom I have hunted and fished many times during the past years. It is through Lee's generosity that I am enjoying a subscription to Virginia Wildlife.

My son is a resident of Virginia and I am looking forward to a short vacation with him, and may have the opportunity to do some fishing in your state. The April issue certainly encourages me to pursue that possibility.

Nelson A. Talmadge
Suffield, Connecticut

Thanks for your comments about the April issue. It's your last statement that makes us feel great—that was the whole idea!—Assistant Editor

Shenandoah Geography

Please permit a Georgian to speak: first off, let me state that Virginia Wildlife, in my opinion, is in a class by itself as far as conservation periodicals are concerned. I love your state and above all, love the Shenandoah Valley. To me, [it] is Eden on earth.

The pride Virginians take in their homeland is obvious, as is the pride the staff of Virginia Wildlife manifests in its publication.

I was appalled, however, to read in the May issue a sentence in Mr. John Heerwald's article on the Shenandoah River. In the fourth paragraph of said article entitled "The Shenandoah: A Virginia Tradition," Mr. Heerwald alludes to the North Fork of the Shenandoah River as winding its course "through central Page County. . . ." I suggest that Mr. Heerwald take geography more seriously. Unless the great Virginia politicians have enacted some recent vast legislation, nowhere does the North Fork of the Shenandoah about much less run through Page County. Please, Mr. Heerwald, let the fine people of Shenandoah County take credit for one of America's most beautiful streams!

I am not a critical person by nature, but I hold the North Fork, Shenandoah County and its citizens in such high esteem, that I felt compelled to address this oversight.

More Shenandoah articles—please! There is never too much of a good thing!

C. Neill Baylor, Jr.
Richmond Hill, Georgia

Right you are. The North Fork runs through Shenandoah County; the South Fork runs through Page County. We failed to catch Mr. Heerwald's error in an otherwise excellent article.

Apparently, you were the only one to catch the mistake, since we've received no other complaints.

As you no doubt noticed in the June 1982 issue, we followed up with another article on the Shenandoah, this time on the South Fork specifically. Another article by Mr. Heerwald (who is an outdoor recreation planner with the Commission of Outdoor Recreation and an avid canoeist) is forthcoming; this one will be on the North Fork.—Assistant Editor



by Dinny and Helene Slaughter

If a trip to the beach
is on your vacation agenda,
use the opportunity for...

Gettin' the Blues

Let's face it, few Virginian sportsmen surf fish! Why? Probably because most don't live near the surf and the long drive to the ocean beaches, even before today's high gas prices, didn't seem worth the effort. Chances are, however, that many of those same persons spend some time during the year with spouses, friends, children or family at "the beach." Surf fishing can be a pleasant diversion or added attraction to a week or weekend beach excursion. Let's look at some of the reasons.

Casual surf fishing is inexpensive compared to most other forms of sport fishing. You don't have to make large investments in a boat, motor, trailer, and safety equipment, or pay storage, slip or insurance fees. There's no need for numerous rods, reels, artificial lures, or even a tackle box if you want to keep it simple. You can skip paying a boat captain, renting equipment and you won't have to purchase a license. Salt water fishing is free! All you really need to get started is a surf rod and matching reel, a couple of bottom rigs, a knife, and some bait. Economical rods and reels can be purchased from discount stores and sale catalogs for less than \$60.00 complete. They can sometimes be picked up at flea markets and yard sales for a fraction of that amount. Bottom rigs at coastal tackle shops cost between one and two dollars apiece depending upon type, and a day's bait supply (squid, shrimp, worms, cut mullet) usually runs around two bucks. If properly cared for, the rod and reel will last for many years.

Something we particularly like about surf fishing is the lack of flying insect pests and the offshore breezes which cool the angler on even the hottest of days. If you're one of those unfortunate people who react to the least little insect bite, this can be an important factor. Often during the mosquito or deer fly seasons, life can be miserable just a hundred feet away from the surf, but wade into the water and everything is cool! Another surf fishing plus: there's no poison ivy, chiggers or snakes to contend with for those who can't cope with these hazards. And for the beginner or inexperienced surf fisher, there are no overhanging branches or water debris to tangle your lines and snag your lures. In surf fishing

you might use the same inexpensive rig for a week or so. Lastly, the surf fisher usually can park near his fishing spot. This makes it attractive for older persons or the handicapped. In our travels, we meet many surf fishermen and women, a large portion of whom are retirees with medical problems. Surf fishing is a great way to be outdoors participating in your favorite sport without many of the hassels connected with other sport fishing.

Unlike other anglers who tend to dress similarly to people fishing for the same species of fish, surfers are individualistic. They're not into clothes! They're seen in bikinis, cutoffs, waders, shoeless, coveralls, or surplus. A surprising number manage to wear slacks and dress shoes without getting wet, although they must be fleet of foot after casting to avoid the incoming waves. Don't worry about your appearance when surf fishing. Anything except nudity is okay!

After surf fishing and watching others do the same along our eastern coast we can state that these anglers are most courteous and helpful. We think they're people who enjoy the solitude and peace of an early morning or late evening beach. We've never seen any crowding, or encroaching into an area occupied by a successful fisherman or woman. They seem to space themselves along the shore automatically, converse very little (because of the pounding surf) and are usually very generous with their unused bait when they leave. Surf anglers can stand for hours watching a rod tip, feeling the shifting sand beneath their feet and the salty spray against their faces.

If you go to the beach each year and are becoming increasingly bored with lying flat out in the sun, watching the kids, or waiting around for others to wake up, try some casual surf fishing. We can't tell you how to surf fish. You'll figure that out for yourself by watching others and asking a few questions. We're just suggesting that you carry along some basic gear as we've outlined and give it a try. Don't be shy, wade right in! Half the anglers out there don't know what they're doing either. They're simply enjoying the scene and they may even catch a few blues. We all do. . .eventually! □

The water tupelo and baldcypress are bell-bottomed denizens of the Atlantic and Gulf Coast wetlands. Virginia marks the northernmost starting point for the tupelo while the baldcypress can be found just north of the Old Dominion in Delaware.

The more famous baldcypress has a wider range. Both species dot the coasts of the Carolinas and Georgia, move west along the Gulf Coast states to Texas, and north up the Mississippi River valleys to Illinois and Indiana. But unlike the tupelo, the baldcypress covers the Florida peninsula.

Virginians find the baldcypress (also called the southern cypress, tidewater red cypress, the white cypress) in Lake Drummond's Dismal Swamp. The writer recalls their majestic grotesqueness at Lake Chickahominy near Williamsburg. At Chickahominy, the baldcypress' thick bottoms emerge like inverted funnels from dark amber waters, waters which the

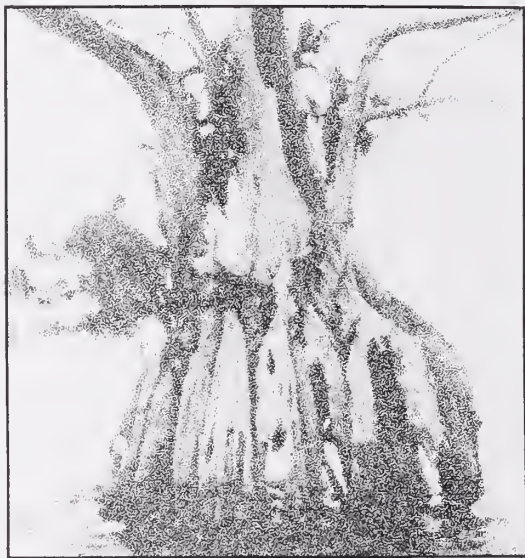
natives say are colored by dye from the trees.

Both tupelo and baldcypress display swollen bottoms, or buttressed bases. Why? Both trees are anchored in muddy, submerged, or waterlogged soil. Because the root systems are shallow and spread out, the bulging bottoms help stabilize the trees. The baldcypress also has its famous "knees," large, conical root projections that pop up out of the water by several inches or feet. A theory to their purpose is anchorage. Some think they supply air to the root system.

But like the individuals in any association, the baldcypress and tupelo do have their differences. Although they both drop their leaves in the fall, the baldcypress' leaves are needle-shaped, while the water tupelo bears egg-shaped leaves, five to ten times longer and much wider than the needles. The baldcypress is a conifer (bears cones) and a gymnosperm (naked seed), while the tupelo is an angiosperm, bearing its

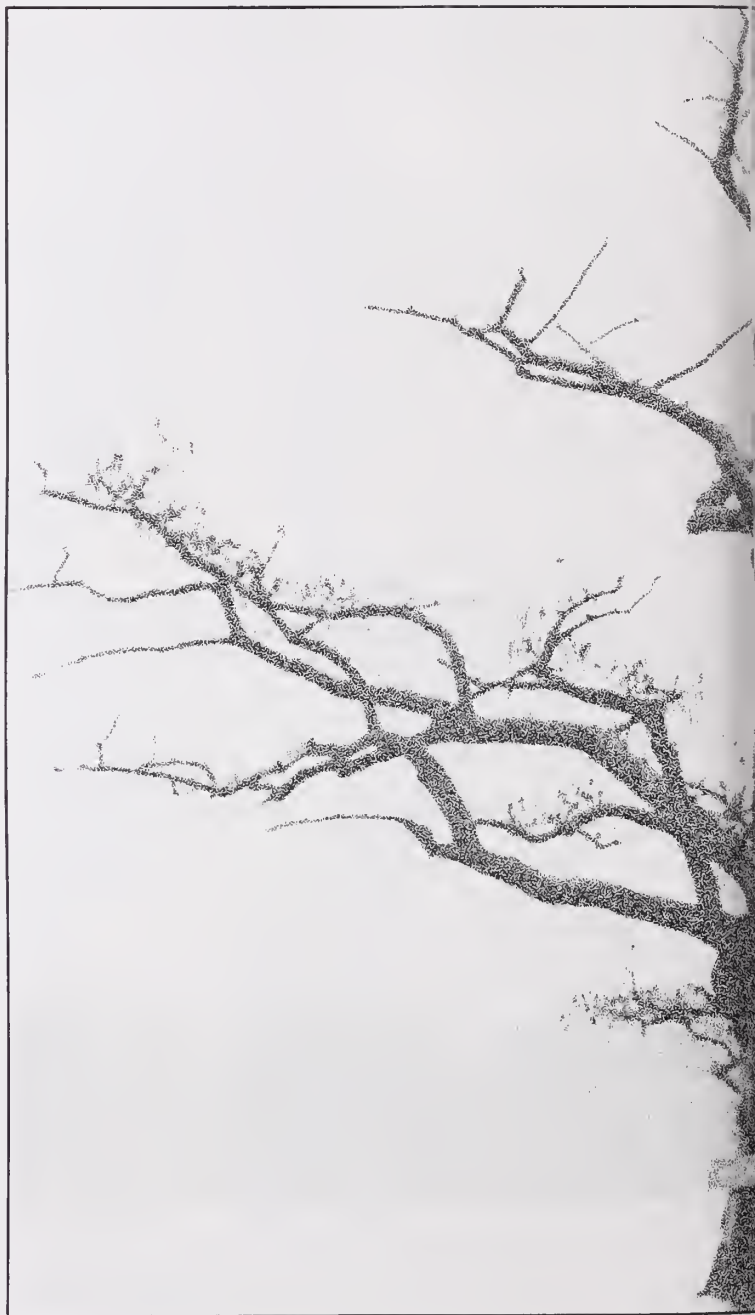
by Bill Weekes

Trees



of the Swamp

Tupelo and cypress are two of the most familiar inhabitants of Virginia's wetlands.



seeds within purple, plum-like fruit. While both trees may reach 1,000 feet, the baldcypress may commonly reach 120 feet and, in some cases, extend as high as 150 feet.

The baldcypress can live much longer than its swamp pal. Its virgin stands commonly reach 400 to 600 years old. Individual trees in Georgia and South Carolina have been around for 1200 years—the oldest trees on the east coast. In fact, the baldcypress is similar to ancient species that were common in North America and Europe.

Noted for its large size and longevity, the baldcypress is considered by many laymen a slow grower. Old virgin stands grow slowly, but second-growth stands lay down several rings a year, a fact which may cause foresters to underestimate its growth by overestimating stand age. Ring counts average 1.6 times the tree's actual age, according to the results of some experiments.

In order to sprout, baldcypress (and tupelo) seed must be exposed to the air. The seedling may grow 8 to 10 inches its first year and reach 16 to 20 inches the second year. During its first 100 years the baldcypress grows a foot a year, after which it levels off to a slower growing rate. It can expand to three or four feet in diameter. Under the best growing conditions, the tupelo may also reach the same diameter at 110 feet in height. But generally the tupelo will not become as large as the baldcypress, taking 25 years to reach 40 feet in height and six inches in diameter, and 70 feet in height and ten inches in diameter after 50 years.

The baldcypress is soft wood, averaging 28 pounds per cubic foot. The baldcypress' heartwood is extremely durable even when exposed to the weather—so much so that it's termed "wood eternal." For this reason the heartwood is used for flooring, water tanks, ships, cross ties, shingling, and



*(Far left) Cypress grows out into the shallow water along the shoreline of Lake Drummond in the Great Dismal Swamp; here, you can see the Spanish moss which often goes "hand in hand" with this sometimes-ornate tree.
(Left) Cypress; (below) tupelo.*



coffins. Doors and arches in Europe which have endured for thousands of years are made of baldcypress.

The wood of the water tupelo (also called cotton-gum, swamp gum, or bay poplar) is hard, moderately strong, stiff, and fairly high in shock resistance. It's used for furniture, but its ability to show lettering well has popularized the wood for use as berry boxes in export shipments. It is also useful for floors and platforms that experience wear. The lightweight wood found in tupelo's swollen butt is made into fish-net floats.

Unlike the tupelo, the baldcypress is used as an ornamental and has been proving hardy in such unlikely habitats as New York and through Indiana and Illinois.

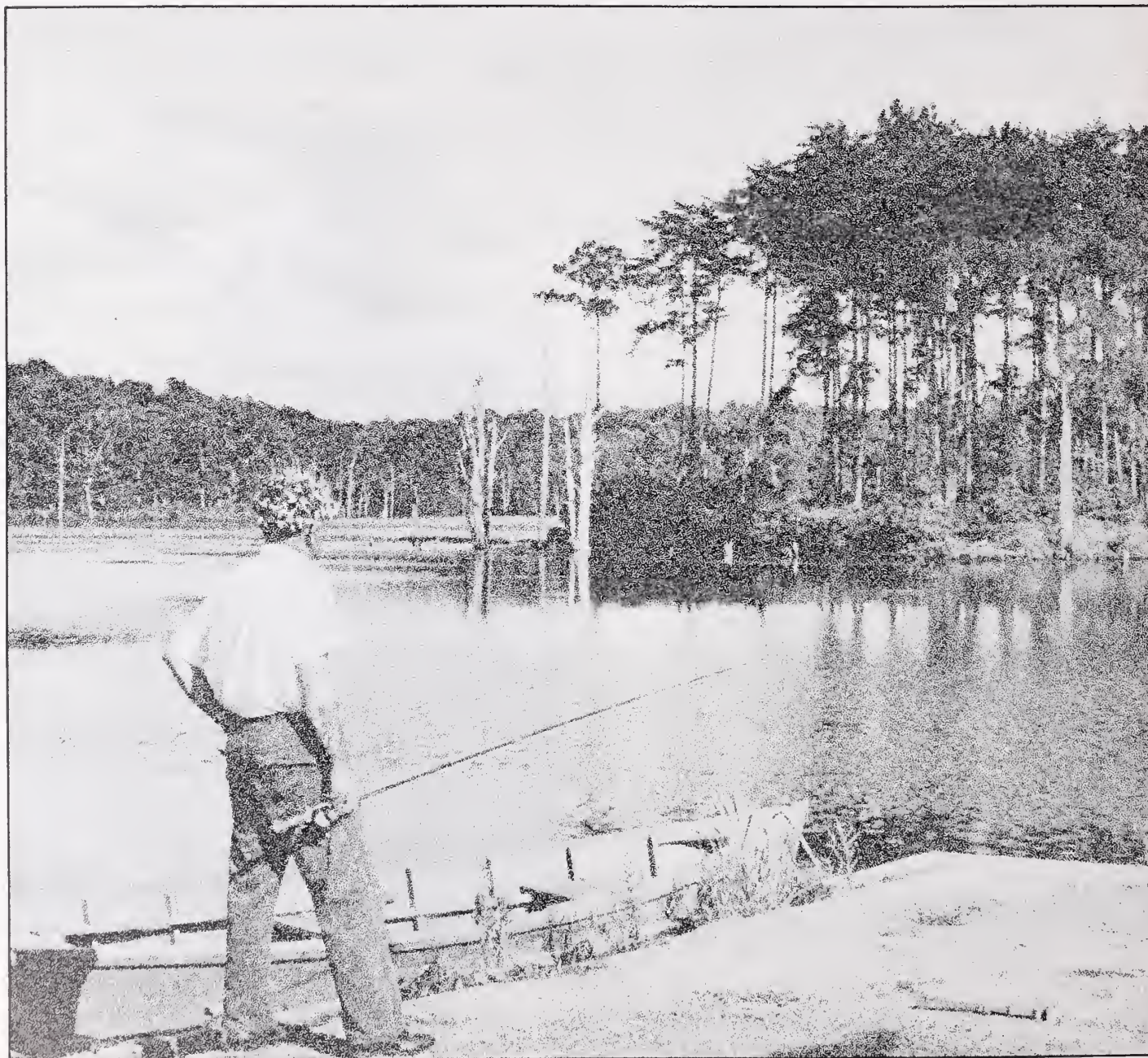
Any fisherman of the southern swamps is familiar with the appearance of these two species. The tupelo has a dark brown bark which is about a quarter inch thick. Like the

baldcypress, the tupelo's bark is longitudinally furrowed. With older age, the baldcypress' furrows deepen into ridges and its bark will change from a pale gray to red brown. Another baldcypress trademark is its "wig" which becomes more apparent during the winter and early spring months. The baldcypress wears an ever-present cloak of Spanish moss which hangs in streaks, casting a ghostly, tropical aura over the tree.

But the bite of these bell-bottomed buddies is better than their bark—the bite fishermen have come to expect when they pop their lures off the bulbous bases of these water-loving species. The waters surrounding the tupelo and baldcypress are favorite target areas for nimrods seeking crappies and largemouth bass.

But then, this is another story. . . □

This habitat is typical of those in which tupelo and cypress flourish.



Leon Kestel/00

photos by Robin Schroeder

by Sarah Bartenstein

Muffy Goes CLAMMING

pre-pubescent hairstyle

fluorescent slicker
(not a cloud in the sky)

Note: butler has clamming rake

John Dean glasses
(purely for effect;
has 20-20 vision)

required reading

tote from famous prep outfitter
(whose initials are L.L.B.);
contents: catalogs from "key" stores; box of
Triscuits; can of Tab; keys to the BMW; plastic cup
with "Hollins" printed on it

tank watch
(expensive grade;
keeps terrible time)

signet ring
(she's had it since 3th grade)

"duck" shoes
(also called "Maine hunting shoes")
owner has never been within 100 miles of a duck
blind

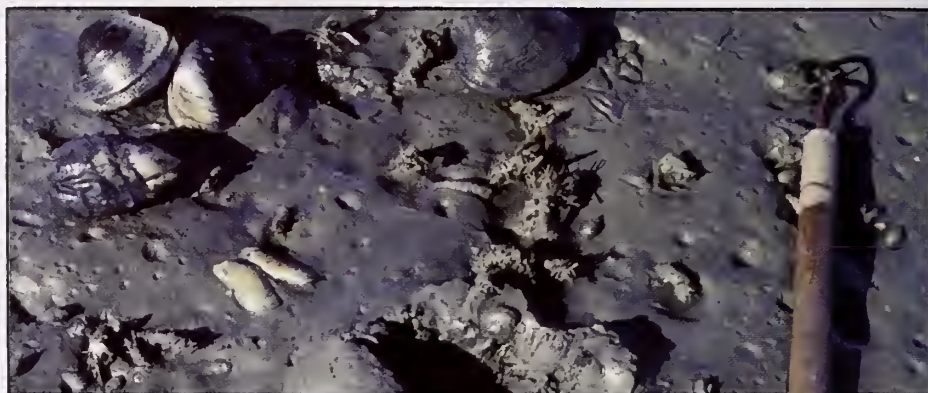
borrowed waders, size 87; has topsiders on under
these



(Right) Clam rake—petite, “Muffy” size—and the sum total of Muffy’s “haul.” (These are “chowders.”)

(Center) Kiki throws her back into it; by the way, she’s actually 6 feet tall, but she’s in mud up to her knees.

(Far right) GW#2 found some oysters amongst the clams and showed the headquarters personnel how to shuck them, then ate one—ick-poo—RAW!



Let’s get one thing straight: this is *not* a how-to article. This is a “how-not-to” article. How-not-to go clamming. In other words, the “Muffy Way.”

Muffy is an indoor-outdoor writer. Unlike indoor-outdoor carpet, the designation is not meant to indicate that she functions either indoors or outdoors. On the contrary, it means that she is trying to pass herself off as an outdoor writer while remaining indoors. Unless you count parties on the screened porch, bloody mary in hand, Beach Boys on the stereo, as “outdoors.”

I don’t want to say that Muffy is naive or inexperienced when it comes to things sporting, but if you say “field dressed” to her, she thinks you mean that the creature in question (a sartorially splendid white-tailed buck, for example) is wearing the latest from L.L. Bean or Abercrombie & Fitch. After all, that’s what *she* wears when *she’s* afield—at the A&P, say.

You get the idea, anyway. All this would be fine were it not for the fact that Muff conned her now-boss into giving her a job on the editorial staff of a sportsman’s magazine—and they *don’t* cover lacrosse matches.

One day, Muffy’s two companions issued a challenge: go outdoors, then write about it. Sounds simple to you, I know, but to Muffy, it sounded like culture shock. So, to soften the blow, Bootsie and Kiki (“not their real names,” as they say in “Dear Abby”) settled on a clamming trip to the Eastern Shore, because it would be “kind of like going to the beach.”

Yeah. . .the beach without electricity, Beach Boys music, bars, indoor plumbing—why, there wouldn’t even be any servants. Muffy sez: “TTFW.” (Too Tacky For Words.)

Well, just to make sure that Muffy didn’t back out at any point, Bootsie and Kiki arranged for two of the local game wardens to meet them at The Scene (that’s Law Enforcement Lingo). And of course, there was the small matter of a boat and a pilot, since they’d be staying on an island. . .and it wouldn’t hurt to have them along to help once they actually got down to the business at hand. (Clamming, remember?)

You have to understand just how the “field force” views editors and photographers and other “headquarters personnel.” To say that The Warden sees such people as leading a sheltered life is to put it mildly. When Muffy & Co. arrived at the pre-determined meeting place, Game Warden #1 (a real “just-the-facts-ma’am” type) didn’t say “Hello,” or, “How was your trip?” or “Get you a drink, ladies?” He just muttered, “Durn headquarters personnel,” and then, without so much

as a by-your-leave, he hopped into his vee-hickel and sped off, apparently assuming that they’d be close behind. They would have been, if Muffy hadn’t worked herself into a tizzy and flooded the carburetor.

Game Warden #2 (a closet prep—the kind who buys Lacoste shirts and tears off the alligator) was filled with the milk of human kindness and took pity on this motley crew. He prevailed upon J.T.F.M. to go back and “render assistance” to our three damsels in distress. “Don’t know why these durn wimin have t’be out here anyways.” As they headed for Oyster, Virginia to the boat, Muffy said brightly, feigning optimism, “It’s a good thing I brought my topsiders.” G.W. #1 growled, “You ain’t gonna need them thangs tomorrow.” Muffy didn’t like his tone. Unfortunately, he turned out to be correct. Muffy was hopelessly underdressed. Mummy would be appalled.

They hauled their gear into the boat and took off across the Bay. “Gear” refers to a portable backgammon set; a make-up case complete with hair-dryer, electric curlers, and assorted grosgrain hair ribbons; designer luggage containing all the wrong clothes; several plastic cups bearing the names of “key” schools, purchased at lacrosse matches at the concession stands of said schools; a squash racquet; several pairs of hip waders, thanks to Kiki’s better judgement; and assorted beverages. Fortunately, Kiki had had the foresight to tell Muffy and Bootsie to bring rain togs—you know, flourescent green or yellow slickers and bright canvas hats bearing sickeningly sweet whales or ducks on them. (Muffy was the writer, Bootsie the photographer, and Kiki was the brains in the outfit—she was the only one with both oars in the water.)

After such a wet and chilling ride to The Island, Muffy was looking forward to a hot bubble bath and some warm milk before bed. But when she got there and there was no Help to carry her luggage for her, no water for a bath, no electricity to warm the milk, the scales fell from her eyes: when they said “island,” they didn’t mean Hilton Head or St. Simons; they meant Gilligan’s.

When The Day of Reckoning dawned, Muffy awoke completely disoriented. Because it was still dark outside, she thought that she was back in college, and her roommates were waking her up in the middle of the night to go to D² (D-squared is Dunkin’ Donuts, of course). Then it all came back to her: she was on some God-forsaken place called the Eastern Shore, and would be expected to engage in some



major clamming action. She didn't know if she was up to it—all that *exercise* and *outdoor activity*. Ick-poo.

Somehow, she managed to stumble out of bed in her Lanz nightgown. "C'mon, Muff, get dressed—let's bolt!" She got through the Levi's and the Fair Isle sweater O.K., but when she got to the hip waders, she was out of her element. Kiki, ever the worldly one (Muffy would have said Bohemian), showed her how to thread "those darling little straps" through her belt loops, but first she had to remove her shell-clasp belt, the kind with the interchangeable belt strips. And she had chosen the bright pink belt strip to go with her green sweater. She was crestfallen.

The sun was coming up just as they left in the boat. Muffy couldn't remember ever having been up at that hour. Correction: she couldn't remember ever having *gotten* up at that hour. Somehow, six a.m. looks different from the front than from the back. She bagged a few Z's on the way, and before she knew it, she heard Just-The-Facts-Ma'am barking orders. "Get those clamming rakes out of the boat! Somebody pick up the buckets! Move!" Is he talking to *me*? Muffy wondered. She was only supposed to *write* about this, wasn't she? She didn't have to *do* anything, did she?

As she stood there observing, she experienced an odd sensation: the horizon line seemed to go higher and higher. Or was she getting shorter and shorter, like Alice in the proverbial wonderland? Before she realized what was happening, she was in the mud up to her knees. Not wanting to proclaim this fact to the assembled masses, she tried valiantly to pry herself out. But since the waders were gorilla-monsoon-sized (and she wasn't), all she succeeded in doing was pulling one leg completely out of its boot. Fortunately, everyone else was so hard at work that they didn't notice her. She tried again to pull one leg out of the mud, this time positioning her toe just so, so that the boot would come with it. Thank goodness her mother had enrolled her in ballet lessons at the age of three. She got one foot out and stopped to take a few deep breaths. Yessiree, this was Mud City. Once she had this one leg to call her own, the second was easier to claim.

This accomplished, she strutted over to the drones who were busily raking clams. GW #2 explained how it was done. Because she had had such rigorous training in college, Muffy knew exactly how to look so that everyone would think that she was listening, even tho' she didn't hear a word. She was too busy trying to keep her balance. Then, Kiki got stuck in

the mud. GW #1 took the opportunity to deliver a lecture on how to get out of such a fix, and how to avoid it in the first place. But Kiki was having no luck, so he finally walked over to her, put one arm firmly around her waist, and pulled her out—*pop*—like a cork from a bottle.

So *that's* how its done, thought Muffy. Well, no, not exactly—whenever *she* got stuck, she didn't get the Sir Walter Raleigh treatment. They would shout directions to her from wherever they happened to be, or one of them would gingerly offer a hand, in much the same way that one might pick up a live crab to drop in a pot of boiling water.

Meanwhile, Bootsie was recording the entire event on film. Muffy made a mental note to confiscate and destroy the film when Bootsie wasn't looking. And, just so she'd have some leverage, she kept her own camera at the ready, waiting for Bootsie to make some kind of social gaffe.

About that time, an opportunity presented itself. Bootsie, while trying to get a really artistic shot of a rake slithering through the mud, fell. . .into it. Muffy gleefully focused on Bootsie's muddy hind parts and shot.

In a sense, Muffy was in her element, truth to tell. If you've ever been to the University of Virginia on Mud Day, or to any school of the pink-and-green persuasion on any spring day after any formal dance, you've been in as much mud, as had Muffy. But somehow, it felt dirtier because she was dressed for it. (Pure Muffy logic.) Let's face it, mud on your brand new espadrilles is rakish. Mud on your waders is pedestrian (no pun intended).

That afternoon, buckets filled (no thanks to Muffy), they got back into the boat to return to their island. Muffy smiled to herself, knowing she had the perfect shot of Bootsie's muddy posterior, suitable for framing in one of those cute madras-covered numbers. But the joke was on her. You know Muffy—her elevator isn't all the way to the top. She'd forgotten to load the camera back at the office.

The office! She suddenly remembered that she was expected to go home and write a story on this! What would she write about?

As the strains of "Tara's Theme" played ethereally over the waves, she said aloud, to no one in particular, "I won't think about that now. . .I'll think about that tomorrow." □

Sarah Bartenstein is a 1978 graduate of Hollins College, where she worked on the staff of Hollins Magazine. She has been assistant editor of Virginia Wildlife since April 1980. Hollins taught her how to write, Mummy taught her how to behave, and Daddy taught her how to wisecrack.

But if it's clams
that you're after...





(Opposite page) Here's how it's really done.
(Left) Cherrystones and littlenecks.

photos by Dinny Slaughter

Hunting quahogs can be entertaining, educational and provide an epicurian delight. No, in case you're wondering, quahog is not a new species of wild pig—just a fancy northern name for what we native Virginians normally call the common hard shell clam.

The clam's Latin name, *Marcenaria marcenaria* derived from the shell's early use as Indian currency. This bivalve and many of its close relatives proliferate in suitable environmental conditions from Maine to Florida. They prefer the sand or sandy mud bottoms of the intertidal bays and rivers, and Tidewater Virginia is especially suited to these needs. Quahogs are found in contagious distributions which means if you find one, you're likely to discover many more close by. They vary in size according to age and are named accordingly. Not surprisingly, in this case, bigger is not necessarily better.

Littlenecks, considered a delicacy by many folks, are the smallest, up to one and a half inches. They're the most tender and are usually served raw or steamed and accompanied by a butter dip. Cherrystones are the next size category, up to two inches in diameter, and some people claim they're tastier than their counterparts. Clams over two inches are called chowders and are usually used as the name implies or minced in various recipes.

Acquiring a good "mess" of clams for your own use is simple and inexpensive. Low tide is the proper time for probing below the surface of the mucky bottom and the best method is to purchase a clam rake especially designed with long tines for penetrating deep into the substrate. Actually, almost any digging tool will do and most people use an old pitch or manure fork. This requires considerable leverage for prying up the muck and isn't recommended for everyone, especially those with back problems. Occasionally while you're clamming, onlookers watching your success will

decide to try their luck and use their bare hands, an excellent way to slice open a finger on an unseen shell fragment! Gloves are helpful and an old pair of sneakers or other protective footwear is a must for the same purpose. Once the clams have been dug or raked to the surface, a container is needed; some clambers use a bushel basket floating inside an inflated innertube. Styrofoam coolers with a little water added for ballast are functional as well. They're often tied to the waist to keep them from floating away with the tide. Buckets, burlap sacks, and laundry baskets are also frequently used. Actually, in clamming, anything goes!

Once you've dug enough clams, you're ready to prepare a scrumptious feast. Clams can be cooked in many ways or eaten raw. The smaller clams are easily opened with a solid, sharp knife forced between the shell's valve so that the muscle holding the shell closed is severed. The simplest way to prepare all sizes is to place the washed clams in a pot of suitable size and add boiling water (about a half-cup per gallon of clams), cover with a tight lid and cook over open fire or on a range burner. The steam produced in a very short time makes the little fellows open up so they can be removed from the shell with a fork and dipped in melted butter. Remember, it takes very little time to steam them; as soon as they're partially open, they're done. Strain the broth and serve it, too. Add a little wine, some cheese and a few saltines and you've got the best in eating pleasure. After a day of clamming, with all that digging and bending over, you'll be feeling weary, but a clam feast will make it all worthwhile.

If you fail in the quest for enough hard clams to provide a full meal you can always purchase some from commercial fishermen. On Chincoteague Island last year they were selling at roadside stands for five cents each, and a dollar provided a lot of good eating. □ *Dinny and Helene Slaughter*

Dinny and Helene Slaughter of Front Royal are regular contributors to Virginia Wildlife.

"Where the Clams Are"

Where should you look for clams? You can try the Eastern Shore. Our three went in October, so that they had to wear warm clothing and boots, but you can go in the summertime in a bathing suit and tennis shoes (we don't recommend your going barefoot—it's easy to cut your foot on a broken shell). Pick a spot anywhere south of Chincoteague on the seaside, and try the shallow flats and bars at low tide.

The Northern Neck has possibilities, too. The marshes of Mathews and Gloucester Counties on the Bay side, and the York River, yield their share of clams. This means deep water and waders—get the right size!

And, of course, there's always the beach, with its obvious recreational advantages. And if you don't know what *those* are, you obviously didn't read the beginning of this story very carefully. Go back 10 paces!

by Bill Weekes

In a Class by Itself The Horseshoe Crab

While the Atlantic tide was slowly returning during a glaring dawn, I spied what I thought was a large conglomerate rock being furiously bathed by intermittent dashes of waves. Indifferently, I passed the dark object 15 feet to one side. I splashed along for several yards until something made me turn on my heel, retrace my soggy steps, and investigate the object.

I leaned over and immediately recognized I had been mistaken. I lifted and studied a creature that resembled something Captain Nemo might have designed as a model for a new submarine.

What I grasped firmly in both hands was a living thing whose ancestors looked pretty much the same 200 million years ago. Creatures like these had been swimming and reproducing at the time dinosaurs roamed our *terra firma*.

The horseshoe crab (*Limulus polyphemus*) looks prehistoric: spines, spikes, pinched legs, a moveable spear-like tail (called a telson), and eery, half-moon eyes recessed in a shiny, brownish-olive dome called a carapace. It's the dome, with its intriguing furrows and spines, that makes the creature also look futuristic: a miniature spaceship out of *Close Encounters*. And, behind the carapace, a hinged abdomen anchors a tail one may imagine emits laser beams.

Singular in appearance, this sea being, also called the king crab, is singular (to us) in habit. It frequently swims upside down. The female, during spring breeding, may pull several males behind it, like a locomotive pulling train cars. *Limulus* chews its food with its legs. It lives much of its life under sand, getting there by using its convex carapace as a shovel and its tail as a lever.

The horseshoe crab also has dug a singular niche in the

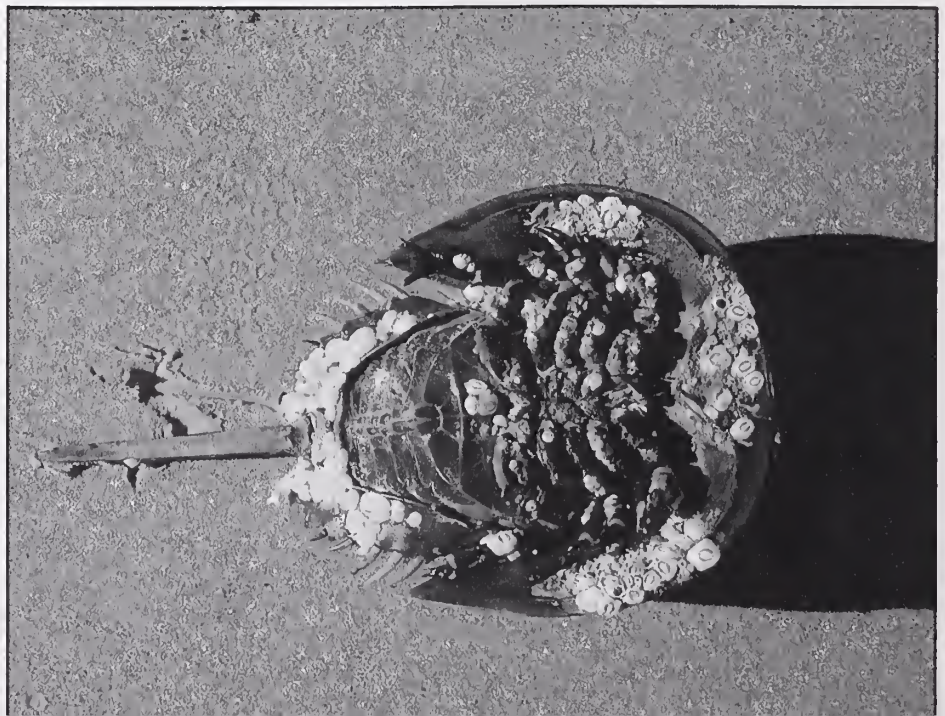
animal kingdom. It's an invertebrate, no internal skeleton. It's an arthropod. Its flip side reveals six pairs of jointed legs, attached to a cephalothorax (joined head and mid-section). The first pair of legs are the small chelicerae, used for guiding food into the mouth. The mouth is found along the median between the next four pairs of legs, those used for walking. The longest appendages are the pair most posterior. Unlike the other legs, these are not pinched, but end in spines. They anchor, help push and steady the creature as it digs into the sand.

The poly-sided abdomen carries five pairs of gill books containing blood-laden leaflets that act as the animals's breathing mechanism and help it in swimming. The abdomen, laterally adorned by fine moveable spines, may be bent to form an arch whenever *Limulus* wishes to become "a shovel."

The horseshoe crab is not a crab, sources agree. Some call it a crustacean, or an arachnid, but others say "no" to these categorizations. It's like a crustacean: external skeleton and jointed limbs. But it has neither paired jaws nor antennae. Because of this, it seems more akin to the arachnids, spiders and scorpions which also bear four pairs of walking legs and a cephalothorax.

The horseshoe "crab," then, is betwixt and between. Although without jaws, it grinds its food (seaweed, soft parts of mollusks, and worms) by rubbing it against abrasive hair-like spines at the base of its legs. Its long, oval mouth is positioned conveniently between these legs. This physical anomaly has directed biologists to place this "oddball" in a class by itself—the class *Merostoma* (of Greek rootage, loosely meaning "mouth next to thigh").

(Left to right) A barnacle-plagued horseshoe crab; a live specimen; horseshoe crabs always seem to attract attention from beachcombers.





Limulus falls in the phylum *Arthropoda* with true crabs; subphylum *Cheliceræ* with spiders, which also have these food-manipulating appendages; and class *Merostoma*. Some put it in a subphylum, others in an order, both called *Xiphosura*, from the Greek *xiphidion*, meaning "swords," obviously referring to the horseshoe crab's tail.

The horseshoe crab is the only surviving member of its class. The extinct sea scorpion (*Eurypterida*) existed about 300 million years ago. This was during the heyday of the familiar, but now extinct, trilobite, thought by some biologists to be kin to *Limulus* because of the vague similarity of the horseshoe crab's young to the trilobite adult.

Today *Limulus* lives along the Atlantic Coast from Maine to the Florida Keys and along the Gulf Coast to Yucatan. Four other species are found off various Asian waters. Present range of these five species may have resulted from a dispersal from European waters 60 million years ago. Some biologists think the "crab" existed as early as 350 million years ago, others place its origin at 200 to 150 million years back. Fossil finds *do* bear out one fact: the *Limulus* has changed little from its time of origin. Hence its label, "living fossil."

But why has the horseshoe crab existed so long with so little change? In an evolutionary world that cries "change or die" how did the horseshoe crab start out so "perfect"? The crab *does* have enemies. Fish, true crabs and shore birds pick at its soft underparts when *Limulus* is caught upended. Eels eat the eggs. Indians once caught the horseshoe crab for food, and even today, the species are netted and ground up for livestock feed and fertilizer.

Apparently the carapace has offered sufficient protection

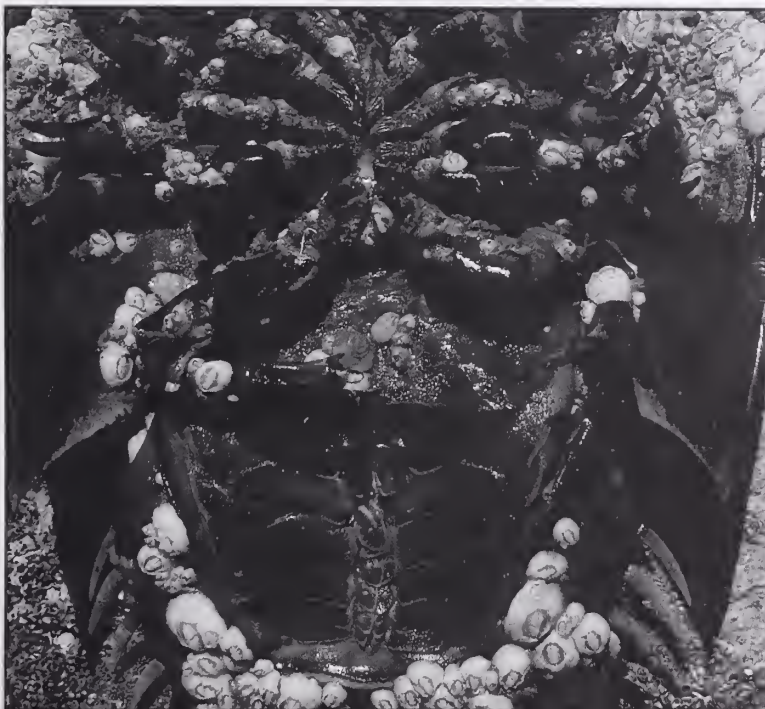
for survival with scant need for remodeling. Another survival advantage has been the creature's excellent eyesight. In addition to its evident compound eyes, *Limulus* bears a tiny pair of simple eyes found on both sides of a small frontal knob on the carapace. The telson, however menacing it may appear, is not used to impale enemies, but to steady the animal while it swims and to help flip it over should it land on its back: *Limulus* is Latin for a "a little askew".

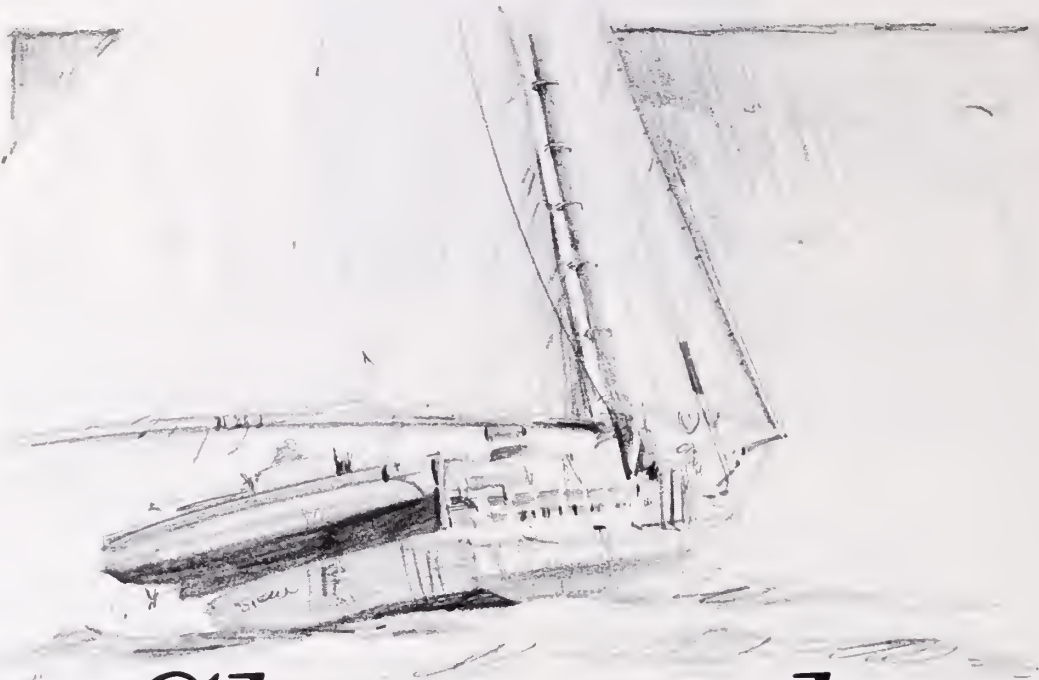
The female horseshoe crab moves out of deep water in the spring and digs a place for her eggs along the high tide line. She is pursued literally by a line of suitors. The chosen male finally deposits his milt over the eggs. As the young grow, they continually molt, splitting and crawling out of their exoskeleton, leaving the empty, paper-like molts behind for beach combers to find.

Maximum sizes of the horseshoe crab varies depending on the source. One boasts his home area is habitat for *Limulus* individuals measuring two to three feet long. Another states the "crabs" may reach 26 inches across and 40 inches in length.

The creature I picked up measured 16 inches long and about a foot across the carapace. It was a female, its first pair of appendages being the small chelicerae. The smaller males carry large front limbs with claws used in hanging onto a female during the mating season.

Apparently this singular, strange-looking being visits the shore frequently. Sources state they are denizens of the deep as well as the shallow. Perhaps being at home in the diverse nooks and crannies of the sea has helped it become the "living fossil" it is, in a class by itself. □





Chesapeake

The bay through the paintings of John Barber

John Barber is a Virginian who paints Virginia. But his reputation goes beyond Virginia, beyond the Chesapeake Bay, his favorite subject. His work has a universal appeal: Virginians, proud of their home, proud of their heritage, appreciate John Barber's work. Lovers of the sea and its vessels appreciate his work. And those who simply appreciate art, appreciate a John Barber painting.

The November-December 1981 issue of *Prints* magazine featured his paintings. Some have been reproduced in limited edition prints sold to raise funds for organizations like the Chesapeake Bay Foundation and the Nature Conservancy. His painting "Parramore Island Guardian" is being marketed to raise funds to preserve the Virginia Barrier Islands.

Barber is a native of Danville, where he was taught—and profoundly influenced—by Lucile Walton. Miss Walton's work appeared in *Virginia Wildlife* regularly for many years as illustrations for Elizabeth Murray's "In Nature's Garden." She helped Barber get a portfolio together which won him a fellowship from the Virginia Museum of Fine Arts; he attended Virginia Commonwealth University on the fellowship, graduating in 1969 with a bachelor of fine arts degree. During his years at VCU, he bartered his paintings for rent,



food, and bills. Barber, a charter member of the American Society of Marine Artists, lives in Richmond now, with his wife Kathleen and their sons, Adam and Joshua.

Barber is best known for his paintings of the Bay and the skipjacks that ply its waters. He has spent time on the skipjacks with their crews, dredging for oysters. Authenticity is of paramount importance to him—one of the things that gives his paintings such high value for collectors—so he has learned to understand and appreciate these boats and the

men who work them. "The Chesapeake Bay skipjack is the last remaining commercial fishing vessel to work under sail in North America," he says. "At the turn of the century, there were more than 1500 of these boats in the Bay, but as of 1979, the fleet had dwindled to 29 boats. Some of them, built before 1900, may not last another season." Barber has made it his business to see that these historic vessels do not pass into obscurity, and has set out to do a major painting of each before they are lost.

The selections on these pages portray the magic and mystery of the sea: its romance, its back-breaking toil, its capriciousness; its power; and certainly, its beauty.

John Barber is preserving the heritage of the Bay.

by Sarah Bartenstein

VIRGINIA WILDLIFE



*The Skipjack "Sigsbee"
is dredging oysters in the cool waters of
Maryland's Chesapeake Bay. Built in 1901
at Deal Island, Maryland, she is one of the
oldest boats in the dredging fleet.*



Passing through the morning mist at Knapps Narrows is one of the oldest Skipjacks working. The “Hilda Willing” built in 1905 and owned by the only German on Tilghman Island—Robert Sweitzer was immortalized in Mr. Michener’s book “Chesapeake.”



Cap'n Dudley is shoveling water into his skiff to wash away the day's fish. He was out early this morning aboard his pound net boat "Fred" working his fish traps at the mouth of the Wicomico River. "Fred" was built in 1946 in Foxwells, Virginia and is capable of carrying 22,000 pounds of fish.



The Herons

Birds of Virginia's Wetlands

These beautiful and interesting creatures are among the major attractions in Virginia's wetlands.

by Dave Ludwig and Bill Rizzo

Herons are the most beautiful birds of Virginia's wetlands. They come in sizes and colors to suit any taste, from the tiny least bittern to the magnificent great blue heron, and from the warm browns of the American bittern to the polished white of the snowy egret. The family *Ardeidae*, which includes the herons, egrets, and bitterns, is worldwide in distribution, with 64 species scattered across the continents. Only 11 species are found in Virginia, however, and these occupy different habitats throughout the state. The snowy egret and Louisiana heron are found year 'round in the marshes and bays of Virginia's coastal areas. The great egret, little blue heron, great blue heron, and black-crowned night heron are also found in these areas, but they have broader tastes, and range into brackish and freshwater swamps and marshes, expanding to the west and north in summer and retreating southeast in winter. The green heron and yellow-crowned night heron are strictly summer visitors to Virginia. The green heron is a retiring bird of freshwater edges, the yellow-crowned inhabits swamps and thickets in the eastern third of the Commonwealth. The two species of bitterns are shy birds of reedy marshes. The least bittern is a summer migrant to freshwater cattail swamps, the American bittern is a coastal resident which moves inland in winter. Both bitterns are difficult birds to see—they will wait until they are nearly stepped upon before jumping up in a confused rush of squawking and flapping. The cattle egret occupies a unique place in the history of Virginia's avifauna. The species evolved on the plains of Africa, where it followed the herds of grassland animals, feeding on insects and arachnids kicked up by the big mammals. In the early 1940's the bird appeared in Florida,

where it began to breed in 1953. Since then it has rapidly expanded its range up the East coast, to the point where it now breeds as far north as New England and Wisconsin.

Wherever herons are found, they are at the top of their food webs, serving as predatory links in the long chain of life. Their food varies from species to species, and depends a great deal on habitat and availability. Herons inhabiting fresh and brackish water feed on fish, snakes, frogs, and insects. Larger, aggressive species sometimes eat other birds: there are records of herons consuming rails, coots, sandpipers, and even other herons! Saltwater herons feed mainly on fish and crustaceans. An American bittern in the author's care frequently ate over 100 killifish in a day.

Most heron nests consist of platforms woven of sticks and twigs, often lined with leaves, grass, or moss, and placed firmly in the lower branches of trees. In some species, like the great blue heron and green heron, the male carries materials to the female, who does the actual construction work. In others, both sexes build, and in the American bittern (which is the only heron that habitually nests on the ground) the female gathers the material and builds the nest. In primeval America, huge mixed-species nesting colonies of herons were found in suitable river-bottom forests. Depredations by plume hunters and habitat destruction have reduced the size of such "rookeries" in modern times. Most herons now nest in small single species groups. Large, mixed species rookeries can still be found, however, and a visit to one of these crowded, noisy nesting sites will not be soon forgotten.

Herons and bitterns play an important part in the web of wetlands life in Virginia. They are also excellent subjects for the wildlife photographer or artist, as they are conspicuous and colorful and often allow close approach. Chincoteague and Back Bay National Wildlife Refuge are good places to see herons and egrets in abundance, along with a wealth of other bird life. But there are herons at one time or another in every part of Virginia. Get to know the species in your area—they are most interesting birds. □

(Opposite page, clockwise, from top right) Little blue heron, Louisiana heron, snowy egret, great (or American or common) egret, great blue heron, American bittern, least bittern, green heron, black-crowned night heron, and yellow-crowned night heron.

Growing Up Outdoors

by Sarah Bartenstein

Photo Tips For Beginners

Say cheese!

Those two words usually let a person know that his picture is about to be taken. And summer seems to be a favorite picture-taking time.

And why not? You have lots of time to be outdoors. You might be going to the beach or the mountains or to visit friends and maybe even to the World's Fair in Tennessee. So there are plenty of opportunities to take some great shots of people, places, animals, plants, pretty landscapes or seascapes.

Here are some things for you "shutterbugs" to keep in mind. (By the way, this column has been written for beginners with simple instamatic-type cameras. If you're more advanced in photography, keep this in mind as you read.)

1. *Know your camera.* The more familiar you are with your camera, the less you'll be fumbling with it when you're actually taking a picture. Your attention needs to be on the subject of the photo, not on equipment. Take a few "practice shots" without film in the camera, to familiarize yourself with it.

Every camera, no matter how simple or complex, has three things: a *lens*, a *shutter*, and some kind of film advance system, whether it's a cartridge system as in an instamatic, a roll as in a 35mm camera, or a disk, as in the new disc cameras. The lens is the glass piece on the front of the camera that lets in the light when you press the shutter button.

2. *Get close to your subject.* When you look through the lens, what you see can be deceptive. What looks close when you're taking the picture might be a tiny speck in the finished print. Also, by getting close to the focal point of the picture, you'll "crop" out the unnecessary, distracting things that are around it. Most instamatic-type cameras have a fixed focus that allows you to get up to about three feet in front of the subject.

3. *Have the sun at your back when you shoot.* If the lens of the camera is pointing at the sun, your subject will be "washed out."

4. *Look closely before you shoot.* You don't want a row of garbage cans in front of Aunt Martha, the way one of our photographers had in one of his prints. He



Some "don't's": top photo has no "focal point." Bottom photo shows a tree "growing" out of a man's head.

was so busy making sure that Aunt Martha was smiling that he never noticed the five cans lined up in front of her. But when the print came back from the developer, there they were, ruining the shot. Most mistakes aren't that obvious, though. Look for trees "growing" out of people's heads: if someone is standing in front of a group of trees, you—or your subject—might be positioned in such a way that the perspective makes the tree

look like it's coming right out of the person's head. Trees and garbage cans aren't the only culprits, either. The best rule is simply to look carefully before you press the button.

5. *Watch your focus.* Simple cameras have a fixed focus, but you can still get a blurred photo if the subject is moving or if the photographer is moving. Try to keep perfectly still as you press the shutter. Sometimes it helps to take a deep breath and hold it just as you snap the picture. And don't make the mistake of pressing on the shutter button so hard or so long that you actually move the camera itself. It only takes a light touch.

6. *Watch for shadows.* Many people think of bright, sunny days as the best times for picture-taking. Actually, a sunny day is the time to watch out for shadows which can mar your picture. A slightly overcast day is really a great time for picture-taking. Beware of shadows in the woods, too. A shadow can ruin that shot you're about to take of a flower or a squirrel. Again, the best rule is to look carefully before you shoot.

7. *Shop around for the best film and processing prices.* Prices can vary widely from your local drugstore to camera store to mail-order developers, and now even grocery stores, and the quality of name brand films and standard film processing will not likely vary. So find the best deal. Many processors are now offering larger-than-standard size prints, or two prints for the price of one.

What kind of film should you use? That's up to you and what you plan to take pictures of, under what conditions, but a pretty safe bet is to use one of the "400" speed films—it's harder to "goof up" with this kind of film, taking pictures outdoors.

8. *Have fun!* Above all, photography should be a fun way to record your summer activities. Start a scrapbook of photos and souvenirs of your vacation. You'll be surprised at how much you enjoy looking back on it later. □

A Game Warden's First Year

by George F. Shannon
Game Warden
Law Enforcement Division

As I look back to my first year with the Game Commission, I see how my life has changed, evolving into what it is today.

A sudden move to a different location was nothing new, for I had served in the Navy and my wife Dorothea and I were accustomed to packing up the furniture, selling the house, and looking for a new home. But this time was different. We were greeted with the now-familiar phrase, "So you're the new game warden."

Finding a home kept my wife busy during those first weeks. Housing in rural Westmoreland County was scarce. While she was searching for a home, I was finding out what my new job was like.

Having arrived during the peak of the summer season, I was quickly introduced to boat work. This meant patrolling the waters of the Northern Neck each weekend and enforcing the Virginia boating laws and encouraging safety on the rivers. While weekends were busy working the rivers, weekdays brought time for me to familiarize myself with the area, meet the people in the area, and look over those favorite fishing ponds.

Time sped quickly by. With the beginning of fall we bought a home, my wife started working and dove season came in. Not far behind were small and big game seasons. This marked a time when I spent long and lonely hours patrolling. This afforded me a time to reflect on my decision to become a game warden and reassure myself that there was a purpose in what I was doing.

I fell into a routine that altered little from October through January. My day started before sunrise and lasted well beyond sunset. I became proficient in checking duck hunters and blinds, trappers, deer hunters, and answering complaints from landowners. "Working spotlighting" added to this lengthy day. Through these months of hard work I developed a new appreciation for people, wildlife, and the land.

Some say February brings a lull, but I was busy giving talks to different schools

and organizations. This was rewarding for me, because it meant that I could relate to the public the importance of the Game Commission's law enforcement activities.

With the arrival of spring, turkey season opened. This meant a return to the days of early rising. But by this time, I had become familiar with the favorite hunting areas, and my face was well known in the community.

My first year as a game warden was quickly coming to an end. Summer was approaching and the cycle was beginning again. My life had changed. It had been a year of many new experiences, rewarding experiences that make my job as a Virginia game warden seem worthwhile. □



Denney Appears on "Loudoun Outdoors"

Loudoun County game warden Blake Denney of Round Hill, a 28-year veteran of the Virginia Game Commission, appeared on Leesburg's channel 33 cable television as a guest on "Loudoun Outdoors" with Harriet Maloney this winter. Denney discussed the hunter safety program offered by the Commission.

Denney and Ms. Maloney emphasized the success of the videotaped hunter safety program and pointed out that the program has as much to offer the non-hunter or the novice as it does the experienced hunter.

The program has been offered in some Loudoun County schools with good results. It will soon be offered on television to Leesburg residents as well, as it has been in other areas of the state.

Participants receive the course manual by mail, view the televised course, and are mailed copies of the test at the end of the series. Those who pass the test receive certificates and arm patches by mail. For more information on the televised hunter safety course, contact your local game warden or the Hunter Safety Officer at the Game Commission in Richmond.

Denney also reminded viewers of the new non-game tax check-off program. Although the deadline for this year's tax return has now passed, direct contributions are still being accepted at the Game Commission, Box 11104, Richmond, Virginia 23230. This tax-deductible contribution will aid in the management of non-game, threatened, and endangered species in Virginia. □



Instructor Receives Certificate of Appreciation

Prince William County game warden Dan Lass presents a certificate of appreciation to hunter safety instructor Jim Street. Street has taught 850 students since becoming an instructor in 1973. As a member of the Greater Manassas Jaycees, he helped found a community service project to teach the hunter safety course in Prince William County. He is a member of the Fairfax Rod and Gun Club and the B & C Hunt Club in Culpeper County. An avid hunter, Street operates a gunsmith shop from his home and has bagged a wild turkey and four deer from his wheelchair.

Volunteers like Jim Street help make the hunter safety program the success it has been in areas across the state. □

Personalities

by Francis N. Satterlee

Lt. Donald Hinchey

Don Hinchey is a native of Washington County, Virginia where he was born and raised on a farm just outside Abingdon. The general farm that his father operated consisted of about 200 acres on which were raised the normal farm crops, assorted livestock and a dairy herd. Hinchey is the youngest of eight children, five girls and three boys.

All of the children were required to perform certain chores on the farm and, in spite of that strenuous schedule plus school, they found time to learn about nature, fishing, and hunting from their father. Don remembers these times with his father as being some of the most rewarding of his early years. "We used to bank-fish and Dad and my brothers and I would spend hours just getting to know one another. You know, listening to Dad telling stories and explaining about life. Our sisters liked it, also, but we boys spent more time with Dad."

"Close to where we lived was a good-sized swamp. I spent lots of time in that swamp just looking at animals and observing their activities and I guess those experiences and my association with Dad had a great deal to do with my eventually getting into this work with the Game Commission."

During the last two years in high school, he worked in a local grocery store after school and summers. However, he became involved in another activity at the same time which is still firmly etched in his mind as a highlight in his life. He was hired to work in the world-famous Barter Theater in Abingdon. The work wasn't anything spectacular... just general backstage chores, ushering and the like... but he got to know the late Bob Porterfield, the legendary figure who was instrumental in forming the Barter Theater. During the two years he worked at the theater, he met many young actors and actresses, one of whom stands out in his memory. It was Ned Beattie, the actor whose credits include playing opposite Burt Reynolds in the suspense-filled movie "Deliverance."

Don graduated from Abingdon High School in 1960 and worked for a time at odd jobs until enlisting in the U.S. Air



Force in March 1961. He took his basic training at Lackland Air Force Base in Texas and attended a technical school at Keesler AFB in Mississippi prior to being assigned overseas as an electronics specialist. Don spent 18 months in Bremerhaven, Germany working in communications involving the space program. Later he was transferred to Ramstein, Germany where he worked in combat operations and some other facets of communications.

Following his discharge at McGuire AFB in 1964, he went to work for an office machine company in Bristol, Virginia. Later he worked as a lab technician doing fiber research for a chemical company in Hopewell.

In 1968, after learning of an opening in the Virginia Game Commission, he applied for a job as warden and was accepted and assigned to duty in Virginia

Beach. In 1973 he was promoted to Sergeant. Six years later, on February 1, 1979, Don was again promoted, to lieutenant for education in the Hampton Roads District of the law enforcement division of the Commission. His responsibilities are numerous and involve education, public relations, training and a wide variety of other projects in the nine counties and seven large metropolitan cities near Virginia Beach.

Don and his wife, the former Teresa Miskill from Virginia Beach, and their daughter Kim, make their home in that community. For Don, the most rewarding aspect of being a game warden is being able to work with young people in helping to educate them in the needs of wildlife, hunting safety and being able to see firsthand results of the great work that has been done by the Game Commission in maintaining the renewable resources of the Commonwealth. □

The Ponies of Assateague

A Photo-essay by Helene and Dinny Slaughter



Virginia is the home of history, in places like Monticello and Williamsburg; it is the home of vast natural beauty in places like the Valley and the Blue Ridge; and it is the home of the famous Assateague Island ponies.

Unique to Virginia and its neighbor, Maryland, the Assateague pony is often termed "wild," but technically, it is a *feral* animal, meaning that it comes from a domestic species but now runs wild. The ponies which number only about 180 were thought to be remnants of horses stranded on the island by Spanish galleons or pirates. Less romantic, but certainly more plausible, is the recent suggestion by researchers that they are descendants of horses driven to the island from





the mainland by early colonists who tired of their free roaming ways which damaged meager crops.

The ponies are exceptionally hardy and maintain themselves without aid even in the harshest weather without difficulty, consuming great quantities of marsh and dune grasses and drinking water from the island's brackish ponds.

Every Virginian should visit Assateague Island and the National Wildlife Refuge there. The refuge contains over 9,000 acres and is abundant with native wildlife and migrating birds. While you're there for fishing, swimming, birding or any of the numerous activities available there, your trip will be enhanced by seeing Virginia's Assateague Island pony. □





Water Safety Makes River Trips Fun

The Game Commission has received a number of calls recently from people with newly acquired canoes and jon-boats who are planning a trip down the James River. While it is one of the most pleasant ways we know to spend a weekend, a trip on the James without some planning and a little knowledge of the river can be extremely hazardous.

The river has been used for transportation for hundreds of years. Dams, portions of canals, bridges and other structures are found along much of the waterway. Many of these structures have fallen into disuse and, in some cases, actually fallen into the river. These are hazards the boater must be aware of, or at the very least, prepared to avoid.

Dams, particularly those inconspicuous low head dams, such as Williams and Boshers just above Richmond, can be particularly deadly. People sometimes think they can "shoot" the dam as the drop is only a few feet. Others don't even notice the dam until it is too late. The water's hydraulic action immediately downstream of such dams is often strong

enough to hold boats and boaters fast against the face of the dam in a constantly churning mass of water. Escape from this situation is often extremely difficult and prompt assistance by a trained rescue squad is often the only hope of survival. Without anyone's help, nature had made portions of the James risky for boaters. The rapids of the James, particularly those in the city of Richmond, can be dangerous. Rapids are classified with a numbering system from I (flat water) to VI (unrunnable). The rapids "in town" are Class III and IV at best and as the water rises, some can quickly go up to Class V and beyond. Even the most expert paddler takes a careful look at a Class V rapid before attempting to run it.

So if you're going "down the James," look at a map first. Talk to boaters who have run the stretch you're about to try, learn where the hazards are and don't attempt rapids beyond your skill. With a little caution, a trip down the James can be one of the best ways to spend a summer weekend. □



Ambassadors Contribute Prized Game Recipes

Here's the idea—ask the ambassadors of countries famous for gourmet foods to nominate favorite recipes for preparing game meats! A retired U.S. Foreign Service officer, remembering the delights of dining on the embassy circuit, did it; and the foreign diplomats in Washington responded with enthusiasm. Result: a fascinating new cookbook, *Game Cookery: Gourmet Style*.

Every kind of game—four-footed, winged and finned—is represented in more than 150 recipes for entrees, soups, pastries and hors d'oeuvres selected by the ambassadors as prime examples of their countries' game cookery. Secrets of famous chefs in preparing and using sauces, marinades, forcemeat and stocks—the essence of gourmet cooking—are included; and the instructions are interspersed with delightful comments on facts, fancies and personalities in the universe of fine foods. While slanted toward the use of game, all recipes may be used in preparing epicurean specialties from meats of domestic animals.

The cookbook is authored by world traveler-gourmond Joseph H. Smart, is profusely illustrated by wildlife artist Clark Bronson, and includes an introduction by Douglas F. Day, Director, Utah Division of Wildlife Resources who says, "This is the only book we know of which brings together famous game recipes from around the world; and its wide coverage, its observations on the food lore of countries noted for their cuisine and its clarity make the book a valuable contribution to the literature of gastronomy."

Game Cookery: Gourmet Style is available for \$6.00 (postage paid) from: Heritage Arts, 1925 Imperial Street, Salt Lake City, Utah 84105. □



A Wildlife Education Project

Birds and Bunnies on Broad Street

"Taking its own advice," as it were, the Commission of Game and Inland Fisheries is in the planning stage for the development of a demonstration "back yard habitat" area at the Commission's headquarters on West Broad Street in Richmond.

"With the approval of the Non-game Wildlife Program by the General Assembly for taxpayers who were due refunds and wanted to donate to the program, it seemed that now was the time to put into action locally one of the plans that we had been keeping on the 'back burner' for some time," said Richard H. Cross, Jr., Executive Director of the Commission of Game and Inland Fisheries. Virginia began planning the non-game program after the General Assembly passed a law effective July 1, 1981 permitting persons to contribute all or part of any tax refund due them on the 1981 Virginia income tax. To date, Virginians have allocated a total of \$300,226.00 to the Non-Game Program as a direct result of the tax refund facet of the tax program. A large number of other individuals have made direct contributions to the program. In both instances, the funds donated are a tax-deductible item on the 1982 Virginia Income Tax Form.

The timing of the Non-game Program could not have been better, since it will enable the Game Commission to pick up the slack which has resulted from the inadequate federal funding of the endangered species program. With the uncertain future federal funding of the endangered species program, the tax check-off program allows the Commission to continue research at acceptable levels.

Endangered and threatened species are first priority in the Commission's administration of the program. Also high on the priority list will be the computerized inventory of all wildlife in the Commonwealth. This will include tabulating the abundance of each species throughout the state and its life history. Another important project is the actual investigation of selected non-game species. This includes the inventory of rookeries of colonial nesting birds, determining critical habitats and investigating other species. Interpretive wildlife areas on state lands are another project. These will include interpretive walks and observation points in and around marshland areas.

The development of the "Back Yard On Broad" area will be along the lines of the suggestions presented in the Commission's pamphlet, "More Wildlife on Your Property." (The site plan is depicted on page 26 of the publication.) Copies may be obtained free by request from the Education Division, Commission of Game and Inland Fisheries, Box 11104, Richmond, Virginia 23230-1104.

Virginia and sixteen other states now have tax check-off programs; legislation is pending in seven others. □

Endangered Is Often Where You Are

While the mountain lion is endangered, if not non-existent, in Virginia, it seems to be more than plentiful elsewhere. In New Mexico, the Department of Natural Resources may begin hunting lions in Carlsbad Caverns National Park. The National Park Service has agreed to allow the hunting on the basis of the department's and rancher's claims that the animals have destroyed large numbers of livestock in areas adjacent to the park.

The decision apparently reversed a long-standing Park Service policy prohibiting the killing of predators in the national parks. Some conservation groups—the Sierra Club for instance—are concerned the decision could lead to removal of other species, such as the grizzly bears in Yellowstone National Park. □

Bad News For Water Litter

The Commission of Game and Inland Fisheries is cooperating with a number of state agencies as a participant in "Operation Clean Water," an awareness program being spearheaded by the Virginia Division of Litter Control. Wardens from the Commission will have oversized litter bags available and marina operators throughout the state are being asked to keep dumpsites conspicuously labeled and emptied as part of the initial emphasis in the program.

Since there is no agency empowered to clean up the litter in the waters of the Commonwealth (Norfolk Harbor excepted) it becomes the responsibility of all Virginians and visitors to prevent littering. Control of litter is not only a cosmetically sound practice, it also has safety overtones. For example, boat engine intakes can become clogged by floating or semi-submerged litter and propellers can be seriously damaged. Waterskiers and swimmers are in constant danger both from floating and submerged debris and litter and much emphasis is being placed on the danger of certain "dumped" litter which is toxic.

Humans are not the only creatures to be bothered by litter. Wildlife and waterfowl, the consumable species and non-game alike, are in danger from becoming entangled in litter or by the actual ingestion of litter.

According to the Division of Litter Control, "this summer, thousands of vacationers on Virginia's waters will be alerted to litter prevention messages" produced by the agency. Free "Floata-tion" type boat key chains will be distributed to organizations and boat dealers who request them and a variety of public service announcements will be aired on radio and television as reminders that "Every Litter Bit Hurts." □



Biography of a Colonial Naturalist

Charlottesville residents Edmund and Dorothy Berkeley have written a biography of 18th century naturalist, John Bartram. In *The Life and Travels of John Bartram*, the Berkeleys recreate in fine detail the life of this pioneer of American botany.

Bartram's travels in search of plant specimens took him from northern New York to Florida and west to Pittsburgh at a time when there was much to be discovered and few persons interested, at least in this country, in botany as a science. Though largely self taught, Bartram emerges in the Berkeley's biography as an able and colorful botanist whose efforts stand out from those of his contemporaries.

Bartram's collecting carried him to the remote as well as populous areas of this new country. Spurred on by his European sponsors, he sent vast numbers of plants and seeds, as well as some animals, abroad which had considerable influence on European botany of the time.

This is definitely not a book for the casual reader in botany. Bartram's life and dealings, even that of his family before his birth, are taken up in great

detail and I doubt that very much more is known of John Bartram than has been noted here by the Berkeleys.

Dorothy Smith Berkeley received a bachelor of arts degree from Sweet Briar College, attended a summer session at Oxford University, and later studied at the University of Virginia and at Washington and New York art schools.

Her artistic training enabled her to help illustrate several of their books, including *The Life and Travels of John Bartram*.

Dr. Berkeley retired from teaching at Piedmont Virginia Community College, Charlottesville, in 1974. He had previously taught at Washington and Lee University, Washington College, University of the South, and the Womans College of the University of North Carolina (now the University of North Carolina at Greensboro).

However, the Berkeleys' interest in colonial Americans has not ceased. They are currently studying the first U.S. geologist, George William Featherstonhaugh (1780-1866).

The Berkeleys enjoy gardening and often vacation in New Hampshire, where they canoe and climb mountains. □



Kill'em to Save'em

The Office of Endangered Species in the Department of the Interior has changed the status of leopards in 18 African countries from "endangered" to "threatened." That means that American sportsmen can now legally hunt leopards, and the Fish & Wildlife Service hopes they will do just that. As a spokesman for the agency explained, leopards have little value in Africa because the U.S. bans import of leopard skin products. But if hunters begin bagging them, Africans will see the animals as a "potential business and take better care of them." □



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York River State Park

This park provides an opportunity to explore a unique coastal environment, the estuary.

by Charles E. Nimmo, Jr.

The York River State Park offers each visitor many opportunities to explore a unique coastal environment known as an estuary. An estuary is created in an area where the current of a river meets and combines with the tides from the sea to form an entirely new and different ecosystem.

In the case of the York River Park, freshwater from the river merges with the salt water tides that enter the Chesapeake Bay from the Atlantic Ocean. The resulting estuary is rich and fertile and supports a great variety of marine life including fish such as croaker, drum, shad, and menhaden. There is also an abundant supply of commercially valuable oysters and crabs.

At Croaker Landing which is in the park area, a boat ramp is available for boating and fishing enthusiasts.

Ornithologists may also have a field day observing the many species of birds that inhabit the river front, marshlands and forests. This is one of the few remaining coastal areas in the state where the majestic bald eagle can be occasionally seen. At designated times guided birdwatching tours are conducted by members of the park staff.

Many people who visit the park may simply want to enjoy a leisurely walk along one of the hiking trails that meander around the grounds.

Those with a more adventurous spirit (and a canoe) will find much pleasure in navigating Taskinas Creek which snakes its way through the middle of the park. This is an excellent way to observe the animal, bird and plant life that abounds in the tidal marshes. Visitors who do not have their own craft may want to sign up for one of the canoe trips which are usually scheduled on Saturday mornings.

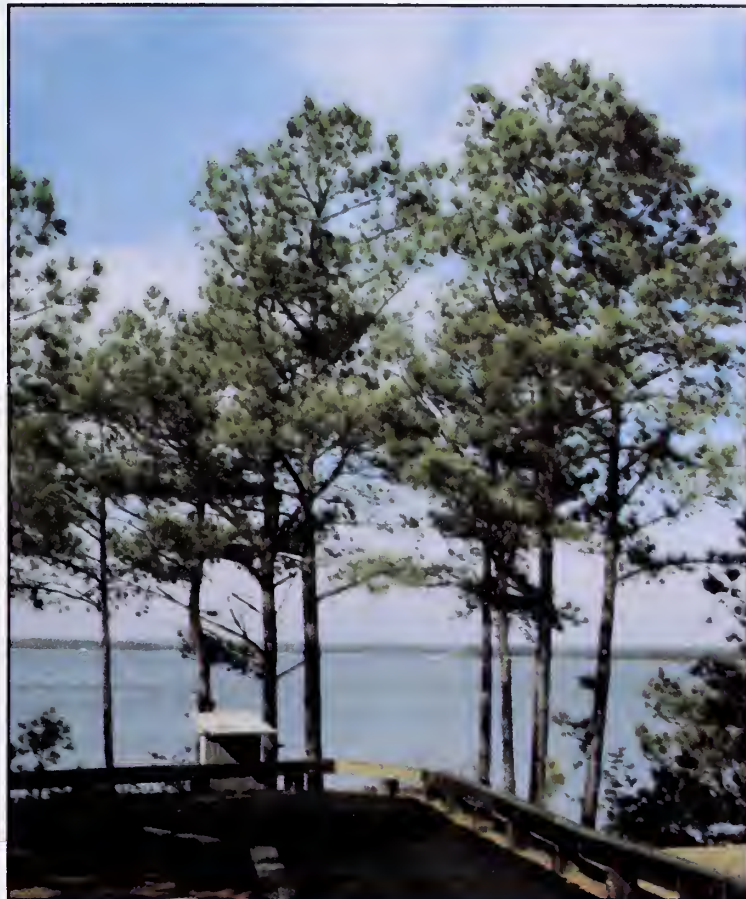
Camera buffs will also find the park interesting. There are

an infinite number of subjects just waiting to be pictured by either the casual snapshooter or by the more experienced nature photographer. When captured on film, a sweeping view of the river, the solitude of a pond or the family feasting at a picnic will all bring back many happy memories.

**(Right, clockwise from top left)
A cloud drifts lazily over
Woodstock Pond; an overlook
on the coastline bordering the
park; the Visitor Center; and
hiking on the beach trail.**

Everyone who goes to the park should plan to spend some time at the Visitor Center. It is a beautifully designed structure that blends tastefully into the natural environment. Inside, an audio-visual presentation that describes the park is readily available at the press of a button. There are other educational exhibits that show various aspects of the plant and animal life found in the 2,500 acre area.

The park is open each day and is located 11 miles north of Williamsburg. It is easily accessible from Interstate 64. Take the Croaker exit to State Route 607 north. Follow Route 607 about one mile and turn right onto Route 606. The park entrance is then approximately two miles on the left. □





Bird of the Month

by Carl "Spike" Knuth

Long-billed Marsh Wren

In the bird world, the setting sun usually brings a short flurry of activity as the birds prepare for darkness. Some may go to roost in the tops of trees. Others will cozy up in an old abandoned nest, in an old tree cavity, or in a thick conifer. Some hide under the eaves of houses or in outbuildings. The darkening sky brings silence—or does it? Anyone who has resident mockingbirds knows differently—especially during the breeding season. Occasionally, even a song sparrow will burst into song at three in the morning, but nothing was more surprising to me than one moonlit night in a marsh. I had just left a friend's house in the wee hours of the morning. As I unlocked my car, I thought to myself, "Those birds are really singin' up a storm in the little marsh across the road." Singing? At one a.m.? The moonlit cattail marsh was alive with singing marsh wrens.

The long-billed marsh wren is one of the noisiest of little birds—literally a bundle of nervous energy—singing from a cattail top or swaying reed. Sometimes it will fly up into the air, fluttering weakly as it drops back down, singing as it drops. Or it may drop down into the thick vegetation, where it chatters or scolds if you've intruded on its territory. The long-bill's song is a vigorous series of gurgling, raspy, almost grating notes.

The long-billed marsh wren is so named not because its bill is particularly long but longer than most other wrens. It's about four and a half to five and a half inches long with rounded wings and a

short, rounded tail. Its colors above are basically brownish with buffy brown underparts. It has a black back with dull white streaks—a field mark that sets it apart from other similar wrens. Probably its best field mark is its dark cap with a white stripe over its eyes. It may hold its tail down to balance while singing, but usually it is carried erect or slanting over its back. Sometimes it flicks its tail while scrambling through marsh vegetation.

The long-bill is a true "marsh" wren, favoring cattail marshes, bogs, marshy-edged slow-moving rivers, the marshy borders of tidal creeks or salt and brackish marshes. Its many names include cattail wren, reed wren, and saltwater marsh wren which reflect their habitat preferences. Marsh wrens feed on tiny insects or on small aquatic creatures which they pick up from the mud at low tide.

Its nest is a unique, globular-shaped structure which is hung by and attached to thick upright marsh vegetation such as reeds, cattails, flags or wild rice, or in low-growing shrubs such as willow or wax myrtle. The nest is constructed of grasses, various weeds and lined with feathers or cattail down. About five to 10 brown eggs, thickly dotted with chocolate brown, are laid.

A number of marsh wrens may nest in a relatively limited area forming a colony of sorts. Also, the male long-bill will build numerous "decoy" nests which, it is thought, serve to deceive and confuse potential predators. Bitterns and other herons may prey on marsh wrens and

pose a danger to the young. Some naturalists claim that the marsh wren will sneak into the nests of larger birds that nest too close and perforate their eggs. The female marsh wren tends to use the older, more weathered nest to set up housekeeping while the male may use the "dummy" nests to sleep in.

The breeding range of the long-billed marsh wren is extensive. There are regional varieties distributed all over the United States and Canada. The prairie marsh wren is slightly larger and is more reddish-brown in color. It is found in the prairies of the north central United States and the prairie provinces of Canada. The western marsh wren is found in the marshy regions of the Rocky Mountain Plateau and the tule or California marsh wren on the Pacific Coast. There are two sub-species on the Atlantic Coast—the Marian's and the Worthington's—which are so similar as to be almost indistinguishable. The other marsh wren—the short-billed marsh wren—is found in dry, brushy, grassy marshlands.

Long-billed marsh wrens generally leave their northerly breeding grounds in early September. Their flight appears very weak and fluttery in a marsh—much like a rail—and one may wonder how this little bird can migrate at all. They winter from southern New Jersey to Florida; the Gulf Coast, Mexico and southern California. It is likely that the long-billed marsh wren can be found in southeastern Virginia marshes all year 'round during mild winters. □

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